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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,820	02/09/2004	Cameron W. Tanner	SP00-391C	9241

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CORNING INCORPORATED  
SP-TI-3-1  
CORNING, NY 14831

EXAMINER
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FORMAN, BETTY J

ART UNIT	PAPER NUMBER
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1634

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/774,820	<b>Applicant(s)</b> TANNER ET AL.	
	<b>Examiner</b> BJ Forman	<b>Art Unit</b> 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,9,13,14,16,20-23,25,31,32,34 and 38 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,9,13,14,16,20-23,25,31,32,34 and 38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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## **FINAL ACTION**

### ***Status of the Claims***

1. This action is in response to papers filed 29 January 2007 in which the first paragraph of the specification was updated to reflect the status of parent applications, claims 1, 4, 9, 13, 14, 16, 22-23, 25, 31-32 and 34 were amended, claims 3, 5-8, 10-12, 15, 17-19, 26-30, 33 and 35-37 were canceled and claim 38 was added. All of the amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action dated 29 September 2006 are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed and are discussed below as they apply to the instant rejections. New grounds for rejection, necessitated by the amendments, are discussed.

Claims 1-2, 4, 9, 13-14, 16, 20-23, 25, 31-32, 34 and 38 are under prosecution.

### ***Priority***

2. Applicant's claim for domestic priority under 35 U.S.C. 120 is acknowledged. However, application 09/650,885 upon which priority is claimed does not provide adequate support under 35 U.S.C. 112 for claim 38 of this application.

Claim 38 is drawn to a porous inorganic layer, derived from one or more tape-cast frit layers of individual particles. The '885 application, upon which priority is claimed, does not provide support for these limitations. While the '885 application teaches a tape-cast layer, the application does not teach more than one layer (as encompassed by one or more) and does not teach tape-cast frit layers.

Because the '885 application does not provide adequate support under 35 U.S.C. 112 for claim 38 of this application, the effective filing date for the claim 38 is the filing date of application 10/101,135 i.e. 18 March 2002. The effective filing date for Claims 1-2, 4, 9, 13-14, 16, 20-23, 25, 31-32, 34 is 2 September 1999.

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***Oath/Declaration***

*Reiterated from previous office action*

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the citizenship of each inventor.

***Claim Objections***

4. Claim 4 is objected to because of the following informalities: Claim 4 depends from Claim 3, which is canceled.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4, 6, 9, 13-14, 16, 20-23, 25, 31-32, 34 are rejected under 35

U.S.C. 102(b) as being anticipated by Glazer et al (U.S. Patent No. 6,824,866, filed 7 April 2000, having priority to 60/128,402, filed 8 April 1999).

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Regarding Claim 1, Glazer et al disclose a substrate for attaching analytes, the substrate comprising a porous predominately inorganic layer derived from a frit of particles adhered to a flat, rigid non-porous, inorganic understructure (glass microscope slide), the inorganic layer having a plurality of interconnected voids that extend through to a top surface of the porous inorganic layer (Fig. 2, pores #128, Column 10, lines 38-53 and Column 29, lines 58-62). It is noted that the instant specification defines frit layer of individual particles as glass particles e.g. borosilicate (§ 48 and 56). Glazer et al define the particle layer as borosilicate particles (Columns 9-10 and Fig. 1-2). Glazer et al further teach the voids are "open" and/or filed with gas (Column 9, lines 30-41 and Column 29, lines 58-62).

Regarding Claim 2, Glazer et al disclose the substrate further comprises a uniform coating of a binding agent (e.g. silanes) over at least part of the surface area (Column 11, lines 36-45 and Column 13, lines 52-60).

Regarding Claim 4, Glazer et al disclose the substrate wherein the binding agent is a cationic polymer i.e. aminopropyl-silane (Column 7, lines 11-17 and Column 13, lines 52-60).

It is noted that the instant specification defines the silane binding agent GAPS as  $\gamma$ -aminopropyltriethoxysilane (GAPS) (page 7, lines 3);  $\gamma$ -aminopropylsilane (GAPS)- (page 11, line 10).

Regarding Claim 9, Glazer et al disclose the substrate wherein the porous inorganic layer is a material that is transparent e.g. silicate, aluminosilicate, boroaluminosilicate, borosilicate glass or light-transmitting fibers (Column 5, lines 41-60 and Column 9, lines 19-20).

Regarding Claim 13, Glazer et al disclose the substrate wherein the inorganic layer has a thickness of about 5 $\mu$ m (Column 2, lines 28-30)

Regarding Claim 14, Glazer et al disclose the substrate wherein the particles have a mean size of about 3.5 $\mu$ m (Column 11, lines 25-27).

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Regarding Claim 16, Glazer et al disclose the substrate wherein the voids have mean size of about 0.3 to 20  $\mu\text{m}$  (Column 7, lines 19-25).

Regarding Claim 20, Glazer et al disclose the substrates provide a sensitivity of at least one order of magnitude greater than comparable non-porous substrates (Column 24, lines 8-13 and Column 33, lines 3-8).

Regarding Claim 21, Glazer et al disclose the substrate wherein the porous inorganic layer is derived from at least partial sintering (Column 10, lines 28-34).

Regarding Claim 22, Glazer et al disclose a planar substrate for attaching analytes, the substrate comprising a porous inorganic layer derived from particles adhered to a flat, rigid non-porous, inorganic understructure (glass microscope slide), the inorganic layer having a plurality of interconnected voids that extend through to a top surface of the porous inorganic layer (Fig. 2, pores #128, Column 10, lines 38-53 and Column 29, lines 58-62), the voids having a predetermined mean size dispersed throughout the layer (Column 11, lines 20-35), wherein the substrate further comprises a uniform coating of a binding agent (e.g. silanes) over at least part of the surface area ((Column 7, lines 11-17 and Column 13, lines 52-60).

Regarding Claim 23, Glazer et al disclose the substrates provide a sensitivity of at least one order of magnitude greater than comparable non-porous substrates (Column 24, lines 8-13 and Column 33, lines 3-8).

Regarding Claim 25, Glazer et al disclose the substrate wherein the binding agent is a cationic polymer i.e. aminopropyl-silane (Column 7, lines 11-17 and Column 13, lines 52-60).

It is noted that the instant specification defines the silane binding agent GAPS as  $\gamma$ ,-aminopropyltriethoxysilane (GAPS) (page 7, lines 3);  $\gamma$ '-aminopropylsilane (GAPS)- (page 11, line 10).

Regarding Claim 31, Glazer et al disclose the substrate wherein the inorganic layer has a thickness of about 5 $\mu\text{m}$  (Column 2, lines 28-30)

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Regarding Claim 32, Glazer et al disclose the substrate wherein the particles have a mean size of about 3.5 $\mu$ m (Column 11, lines 25-27).

Regarding Claim 34, Glazer et al disclose the substrate wherein the voids have mean size of about 0.3 to 20  $\mu$ m (Column 7, lines 19-25).

Regarding Claim 38, Glazer et al disclose a planar substrate for attaching analytes, the substrate comprising a porous inorganic layer derived from a frit of particles adhered to a flat, rigid non-porous, inorganic understructure (glass microscope slide), the inorganic layer having a plurality of interconnected voids that extend through to a top surface of the porous inorganic layer (Fig. 2, pores #128, Column 10, lines 38-53 and Column 29, lines 58-62), the voids having a predetermined mean size of not less than about 0.1 $\mu$ m dispersed throughout the layer (Column 11, lines 20-35). It is noted that the instant specification defines frit layer of individual particles as glass particles e.g. borosilicate (§ 48 and 56).

The claim defines the process of making the porous inorganic layers as "tape-casted frit layers". While the reference does not teach tape-casted layers, the courts have stated that "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) see MPEP 2113. The instantly claimed process of making the inorganic layer does not define the resulting product over the product of Glazier.

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7. Claims 1, 2, 4, 13, 22, 25, 31, 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Havens et al (U.S. Patent No. 6,306,348, filed 15 July 1999).

Regarding Claim 1, Havens et al disclose a substrate comprising an inorganic layer derived from particles adhered to a flat, rigid, non-porous inorganic understructure e.g. electrode (Column 3, lines 15-27 and Fig. 9), the inorganic layer having a plurality of interconnected voids dispersed throughout i.e. porous gel (Column 3, lines 28-37 and Column 10, lines 1-10).

Regarding Claims 2 and 4, Havens et al disclose the substrate is coated with a binding agent e.g. aminopropylsilane (Column 9, lines 52-60).

Regarding Claim 13, Havens et al disclose the inorganic layer has a thickness of about 5  $\mu\text{m}$  (Column 5, lines 56-59).

Regarding Claim 22, Havens et al disclose a substrate comprising an inorganic layer derived from particles adhered to a flat, rigid, non-porous inorganic understructure e.g. electrode (Column 3, lines 15-27 and Fig. 9), the inorganic layer having a plurality of interconnected voids dispersed throughout i.e. porous gel (Column 3, lines 28-37 and Column 10, lines 1-10) wherein the substrate is coated with a binding agent e.g. aminopropylsilane (Column 9, lines 52-60).

Regarding Claim 25, Haven et al disclose the binding agent i.e. aminopropylsilane (Column 9, lines 52-60).

Regarding Claim 31, Havens et al disclose the inorganic layer has a thickness of about 5  $\mu\text{m}$  (Column 5, lines 56-59).

Regarding Claim 38, Havens et al disclose a substrate comprising an inorganic layer derived from particles adhered to a flat, rigid, non-porous inorganic understructure e.g. electrode (Column 3, lines 15-27 and Fig. 9), the inorganic layer having a plurality of interconnected voids dispersed throughout i.e. porous gel (Column 3, lines 28-37 and Column 10, lines 1-10).



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***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 14 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Glazer et al (U.S. Patent No. 6,824,866, filed 7 April 2000, having priority to 60/128,402, filed 8 April 1999) in view of Kuroita et al (U.S. Patent No. 5,990,302, filed 11 July, 1997).

Regarding Claims 14 and 32, Glazer et al disclose a substrate for attaching analytes, the substrate comprising a porous predominately inorganic layer derived from a frit of particles adhered to a flat, rigid non-porous, inorganic understructure (glass microscope slide), the inorganic layer having a plurality of interconnected voids that extend through to a top surface of the porous inorganic layer (Fig. 2, pores #128, Column 10, lines 38-53 and Column 29, lines 58-62). It is noted that the instant specification defines frit layer of individual particles as glass particles e.g. borosilicate (§ 48 and 56). Glazer et al teach the particles have a size of about 3.5µm (Column 11, lines 25-27). Furthermore, the preferred size for silica particles was known to be about 3.5µm as taught by Kuroita (Column 5, lines 18-26). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the preferred size for silica particles as known in the art to the silica particles of Glazer. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success based on the preferred teaching of Kuroita (Column 5, lines 18-26).

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10. Claims 14 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Havens et al (U.S. Patent No. 6,306,348, filed 15 July 1999) in view of Kuroita et al (U.S. Patent No. 5,990,302, filed 11 July, 1997).

Regarding Claim 1, Havens et al disclose a substrate comprising an inorganic layer derived from particles adhered to a flat, rigid, non-porous inorganic understructure e.g. electrode (Column 3, lines 15-27 and Fig. 9), the inorganic layer having a plurality of interconnected voids dispersed throughout i.e. porous gel (Column 3, lines 28-37 and Column 10, lines 1-10).

Havens et al teach the preferred particles are silica (Column 3, lines 15-27) but they are silent regarding a mean of 3.5µm. However, the preferred size for silica particles was known to be about 3.5µm as taught by Kuroita (Column 5, lines 18-26). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the preferred size for silica particles as known in the art to the silica particles of Havens. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success based on the preferred teaching of Kuroita (Column 5, lines 18-26).

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Conclusion**

12. No claim is allowed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.



BJ Forman, Ph.D.  
Primary Examiner  
Art Unit: 1634  
April 11, 2007